

WEST Search History

DATE: Monday, May 05, 2003

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DB=USPT,JPAB,EPAB,DWPI,TDBD; PLUR=YES; OP=OR

L4 L3 and ((424/450)!.CCLS.)

2 L4

L3 (vesicle\$ or liposome\$) same (calcium adj1 \$phosphate) same (coat\$)

157 L3

L2 L1 and ((424/450)!.CCLS.)

68 L2

L1 (vesicle\$ or liposome\$) same (calcium adj1 \$phosphate)

2351 L1

END OF SEARCH HISTORY

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L3: Entry 99 of 157

File: USPT

Mar 21, 2000

DOCUMENT-IDENTIFIER: US 6039557 A

TITLE: Apparatus for making gas-filled vesicles of optimal size

Detailed Description Text (21):

Other coating agents that may alternatively, or in addition, be employed in the aqueous suspension phase include polymers such as proteins, natural and seminatural carbohydrates and synthetic polymers. A variety of different proteins might be used in the invention to produce the gas filled vesicles. Such proteins include albumin from natural (human and animal) and recombinant origins, fibrin, collagen, antibodies and elastin. Natural polysaccharides include starch, cellulose, alginic acid, pectin, dextran, heparin and hyaluronic acid. Semi-natural polysaccharides include methylcellulose, hydroxypropylcellulose, carboxymethylcellulose and hydroxyethyl starch. Synthetic polymers include polyvinylpyrrolidone, copolymers of ethylene and propylene glycol (e.g. Pluronic F-68 and the other Pluronics), polyethyleneglycol, polyvinylalcohol, polylactic acid, copolymers of lactic and glycolic acids, polymethacrylate and double ester polymers. Also inorganic media such as hydroxyapatite and calcium pyrophosphate may be used in the invention. In all these cases the bubble coating agents are suspended in the aqueous phase in a container with a head space of the preselected gas and then shaken. This results in formation of the stabilized, coated vesicles. As one skilled in the art would recognize, once armed with the disclosure of this invention, a wide variety of different stabilizing agents can be used to make vesicles according to the principles of the invention.